

In the Abstract:

Please amend the Abstract as follows:

A MRAM includes: first wirings [[(23)]], second wirings [[(21+21r)]], memory cells [[(14+14r)]], a second sense amplifier [[(3)]] and a first sense amplifier [[(2)]]. The first wirings and second wirings [[(23,21+21r)]] are extended in a first and a second direction [[(X,Y)]] . The memory cells [[(14+14r)]] are placed correspondingly to positions where the first wirings [[(23)]] are crossed with the second wirings [[(21+21r)]] . The second sense amplifier [[(3)]] detects a state of a reference cell [[(14r)]] on the basis of an output from the reference cell [[(14r)]] provided by corresponding to a reference wiring [[(21r)]] . The first sense amplifier (2) detects a state of the memory cell [[(14)]] on the basis of an output from the reference cell [[(14r)]] and an output from the memory cell [[(14)]] . The memory cell [[(14+14r)]] includes a magnetic tunneling junction element having a laminated free layer. The magnetic tunneling junction element has a magnetization easy axis direction which is different from the first and second directions [[(X,Y)]] .